Paper No. 22

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES

Ex parte HIROFUMI WATANABE

Appeal No. 1999-1646
Application 08/628,100

HEARD: AUGUST 16, 2001

Before JERRY SMITH, DIXON and BARRY, Administrative Patent Judges.

JERRY SMITH, Administrative Patent Judge.

DECISION ON APPEAL

This is a decision on the appeal under 35 U.S.C. § 134 from the examiner's rejection of claims 1-11, which constitute all the claims in the application.

The disclosed invention pertains to a control apparatus for an AC generator of a motor vehicle. More particularly, the invention is directed to controlling the

field current flowing through the field coil of an AC generator for efficient operation in a battery charging operation mode and a high-voltage operating mode.

Representative claim 1 is reproduced as follows:

1. A control apparatus for an AC generator of a motor vehicle, comprising:

a rectifier for rectifying a voltage generated by an AC generator which is driven by an internal combustion engine and has a field coil;

a battery charged with electric energy outputted from said rectifier;

a high-voltage electric load of said motor vehicle supplied with electric energy from the output of said rectifier;

mode setting means for changing over the output of said rectifier to said battery or said high-voltage electric load of the motor vehicle to thereby set a battery charging operation mode or a high-voltage operation mode; and

a voltage regulator for controlling a field current flowing through said field coil so that said field current increases gradually at rates of changes set for said operation modes, respectively, to thereby regulate an output voltage of said AC generator to a predetermined value in each of said operation modes as set.

The examiner relies on the following reference:

Yoshida et al. (Yoshida) 5,080,059 Jan. 14, 1992

Claims 1-11 stand rejected under 35 U.S.C. § 102(b) as being anticipated by the disclosure of Yoshida.

Rather than repeat the arguments of appellant or the examiner, we make reference to the briefs and the answer for the respective details thereof.

OPINION

We have carefully considered the subject matter on appeal, the rejection advanced by the examiner and the evidence of anticipation relied upon by the examiner as support for the rejection. We have, likewise, reviewed and taken into consideration, in reaching our decision, the appellant's arguments set forth in the briefs along with the examiner's rationale in support of the rejection and arguments in rebuttal set forth in the examiner's answer.

It is our view, after consideration of the record before us, that the disclosure of Yoshida does fully meet the invention as set forth in claims 1, 2, 5 and 11. We reach the opposite conclusion with respect to claims 3, 4 and 6-10. Accordingly, we affirm-in-part.

Anticipation is established only when a single prior art reference discloses, expressly or under the principles of inherency, each and every element of a claimed invention as well as disclosing structure which is capable of performing

the recited functional limitations. RCA Corp. v. Applied Digital Data Systems, Inc., 730 F.2d 1440, 1444, 221 USPQ 385, 388 (Fed. Cir.); cert. dismissed, 468 U.S. 1228 (1984); W.L. Gore and Associates, Inc. v. Garlock, Inc., 721 F.2d 1540, 1554, 220 USPQ 303, 313 (Fed. Cir. 1983), cert. denied, 469 U.S. 851 (1984).

We consider first the rejection with respect to claims 1, 2, 5 and 11 which stand or fall together as a single group [brief, page 3]. With respect to representative, independent claim 1, appellant argues that Yoshida does not disclose a voltage regulator for controlling a field current through said field coil so that said field current increases gradually at rates of change set for said operation modes, respectively. Specifically, appellant argues that although Yoshida does disclose a gradual increase in the field current, there is no disclosure that this increase occurs at set rates of change [brief, pages 3-5].

The examiner responds that appellant is only considering the response in Yoshida based on battery voltage and has not considered the response based on the load condition of the battery. The examiner notes that under a no

load condition when the manifold is high, there is normal charging of the battery (mode 1) while under a high load condition and low manifold (mode 2) the switch SW1 of Yoshida will change the charging resistance which also changes the rate of change of the current increase [answer, pages 5-6].

Appellant responds that it is the engine load management system of Yoshida, and not the regulator R, which controls the increase in field current [reply brief].

Considering the last point first, we find that the engine load management system 10 of Yoshida in combination with the voltage regulator R constitutes the voltage regulator of claim 1 for purposes of finding anticipation. The only question is whether the claimed field current increasing gradually at rates of change set for said operation modes is met by the operation of the ramp generator 22 in Yoshida as asserted by the examiner.

We have carefully considered appellant's arguments in the briefs, but we cannot find any specific response to the position of the examiner with respect to the two modes noted above. Appellant only seems to address the charging in Yoshida based on the voltage of the battery rather than on the

load conditions as asserted by the examiner. Since the examiner's position appears to establish a prima facie case of anticipation with respect to claim 1, and since appellant has not directly responded to the rejection as formulated by the examiner, we sustain the examiner's rejection of claim 1 and of claims 2, 5, and 11 which are grouped therewith.

With respect to claim 3, appellant argues that the identifying means and the rate-of-change setting means are not disclosed by Yoshida. Specifically, appellant argues that the identifying means is disclosed to be either a duty-to-voltage converter, a frequency-to-voltage converter or a voltage level converter which are not disclosed by Yoshida. The rate-of-change setting means is disclosed to be a series of comparators which receive a signal from the mode setting means [brief, pages 5-6]. The examiner responds that these limitations do not appear in claim 3 [answer, page 6]. Appellant responds that claim 3 is written in means plus function form and that the examiner has failed to properly interpret the means in view of the disclosure as required [reply brief].

We agree with appellant. The examiner has not properly considered the means plus function recitations of claim 3. The corresponding disclosure for the claimed means must be considered in interpreting the scope of the claims and in applying prior art against the claims. Since the examiner has not properly considered the scope of claim 3, we do not sustain the rejection of claim 3 as anticipated by Yoshida. Since claims 4 and 8-10 depend from claim 3, we also do not sustain the rejection of these claims. We also note for the record that we agree with appellant's separate argument with respect to claim 4 as set forth in the brief.

With respect to claims 6 and 7, appellant argues that Yoshida does not disclose a mode setting means that outputs control signals in the form of signals which differ from each other with respect to frequency or with respect to voltage level [brief, page 6]. The examiner observes that the load management system 50 of Yoshida has circuitry which produces signals having frequency and voltage levels. Notwithstanding the examiner's observation, we agree with appellant that the control signals for controlling the different operation modes do not differ from each other by either frequency or voltage

level. Therefore, we do not sustain the examiner's rejection of claims 6 and 7.

Although we have not sustained the rejection of claims 8-10 because they depend from claim 3 as noted above, we also note for the record that we agree with appellant's separate arguments with respect to claims 8-10 as set forth in the brief.

In summary, we have sustained the examiner's anticipation rejection with respect to claims 1, 2, 5 and 11, but we have not sustained this rejection with respect to claims 3, 4 and 6-10. Accordingly, the decision of the examiner rejecting claims 1-11 is affirmed-in-part.

No time period for taking any subsequent action in connection with this appeal may be extended under 37 CFR § 1.136(a).

AFFIRMED-IN-PART

JERRY SMITH Administrative Patent Judge	)	
JOSEPH L. DIXON Administrative Patent Judge	)	BOARD OF PATENT APPEALS AND INTERFERENCES
LANCE LEONARD BARRY Administrative Patent Judge	)	

JS/ki

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